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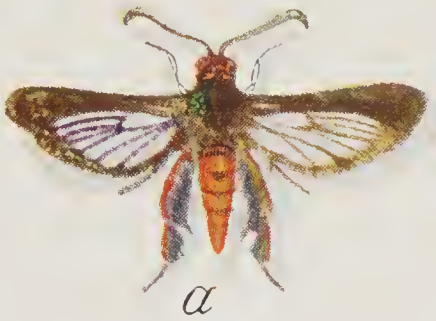
SQUASH BORER



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a, Moth (or adult) with wings spread; *b*, moth with wings partly folded; *c*, part of squash stem (enlarged) cut open to show borer (or larva) feeding within; *d*, pupal cell in soil cut open to show pupa (or resting stage) inside; *e*, part of squash plant showing typical appearance of wilting caused by feeding of squash borer inside the stem. (*a*, *c*, and *d* about 1¼ times natural size; *b* about two-thirds natural size; *e* about one-third natural size.)

(See other side for life history, injury, and control)

Bureau of Entomology and Plant Quarantine
United States Department of Agriculture

Picture Sheet No. 10

SQUASH BORER

(*Melittia satyriniformis* Hbn.)

Squash vines, in many sections of the country, may wilt suddenly early in the summer. Usually this wilting is due to the squash borer, a caterpillar which bores into the stem near the ground. Its presence may escape notice until piles of yellow, sawdustlike excrement, which falls from holes in the stem, become evident.

Life History

The adult is called a clear-winged moth because the hind wings are transparent, like those of a wasp. The female moth lays eggs on the stems in June or July in the North and in April and May in the South, or earlier in the far South. The minute young larvae, or caterpillars, on hatching from the eggs, bore into the stem, grow rather rapidly, and become full-grown when about 1 inch long, after a period of about 4 weeks. One generation occurs in the North, two in the South, and a partial second generation in intermediate regions. The winter is spent in the soil as mature larvae or as pupae.

Injury

When the borers are numerous they cause severe injury. They bore throughout the interior of the stems near the base and may travel up the stems, even to the petioles of the leaves. Sometimes vines are almost severed. The fruits are sometimes attacked. As the larvae become larger the excrement which is pushed out of holes in the stems becomes visible. While most serious on squashes, especially the Hubbard, the borers also attack pumpkins, cucumbers, gourds, and other cucurbits.

Control

Although control is difficult, the following remedies have been recommended: Apply a dust mixture of derris or cube, diluted with talc, tobacco dust, or some other inert diluent. The mixture should contain not less than 1 percent of rotenone, which is a toxic constituent of derris and cube. Apply the dust to the stems and basal parts of the vines three or more times at 10-day intervals. The mixture may be purchased, or it may be prepared at home by mixing 8 pounds of diluent and 2 pounds of derris or cube containing 5 percent of rotenone (or 6 pounds of diluent and 2 pounds of derris or cube containing 4 percent of rotenone). A spray composed of 1 part of 40-percent nicotine sulfate to 100 parts of water has been reported as effective in reducing infestations. Apply the spray to the stems near the base of the plant, and repeat the application at least weekly during the egg-laying period.

The success of any insecticidal treatment will depend upon early and repeated treatment, because after the young larvae have reached the inside of the stem the insecticides will not affect them.

The practice of covering the stems with soil to induce rooting beyond injured portions has long been followed with success, especially on heavy soils in humid areas.

After the borers have entered the stems and their presence becomes evident, the only known remedy is to slit the stems longitudinally with a thin knife or razor blade and remove the borer. The injured portion should then be covered with soil.

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